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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

DEC 27 1991

Mr. George Schnabel
Environmental Control Manager
North American Region
Rohm & Haas Company
Independence Mall West
Philadelphia, PA 19105

Re: William Dick Lagoons Site, Operable Units 1 and 2
West Caln Township, Chester County, Pennsylvania (the "Site")

Dear Mr. Schnabel:

Enclosed are the performance standards for Operable Units 1 and 2 for referenced Site. The performance standards should be be attached, as Appendix C, to the proposed Consent Decree which was sent to you with the "Special Notice Letter" dated November 22, 1991.

If you or your attorney have any questions pertaining to this matter, please direct them to Cynthia Nadolski of EPA Region III's Office of Regional Counsel at (215) 597-9912 or Dianne J. Walker, the new remedial project manager for the Site, at (215) 597-8240.

Sincerely,

Dianne J. Walker
Remedial Project Manager
SE PA Remedial Section

Enclosure: William Dick Lagoons Site Performance Standards

cc: Rex Miller, PADER
Martin J. Suuberg, DOI
Kirsten Erickson, NOAA
Cynthia Nadolski, EPA
Julie Kaplan, DOJ

APPENDIX C
WILLIAM DICK LAGOONS SITE
PERFORMANCE STANDARDS

OVERVIEW OF THE REMEDY

The primary objective of the selected remedies for Operable Units 1 and 2 are the following:

Operable Unit 1 - shall provide a proven, protective and permanent water supply to affected and potentially affected residences (as defined below) surrounding the site via extension of the City of Coatesville Authority (CCA) water line;

Operable Unit 2 - shall (1) obtain information about the response of the aquifer to remediation measures in order to define final groundwater cleanup levels for the site and establish a time frame for meeting the final groundwater cleanup goals, (2) aid in determining which residents will be connected to the water supply chosen as the final remedy for Operable Unit 1, (3) commence work to reduce the mobility, toxicity and volume of groundwater contamination. The remedy for Operable Unit 2 is an interim remedy for groundwater cleanup. A final remedy will be presented in a later Record of Decision to be prepared within an estimated five years of the commencement of the Operable Unit 2 interim remedial action.

PERFORMANCE STANDARDS

The work to be performed by the Settling Defendant(s) under this Consent Decree shall be conducted in accordance with the Record of Decision (ROD) signed on June 28, 1991 for Operable Units 1 and Operable Unit (Interim Remedy) 2 at the William Dick Lagoons Site. All work outlined below shall be performed in accordance with the Applicable or Relevant and Appropriate Requirements (ARARs) as set forth in the ROD in the Compliance with ARARs section on pages 41 through 47. The work to be performed under this Consent Decree shall include, but not be limited to, the following elements and shall meet the performance standards contained therein:

OPERABLE UNIT 1 - EXTENSION OF WATER LINE

1. The Settling Defendant(s) will extend the main water line from its current location on State Route 340 to service affected or potentially affected residences surrounding the William Dick Lagoons Site. Affected residences are defined as those residences located within the groundwater contaminant plume for which sampling results of private groundwater wells to date and in the future indicate the presence of site-related

organic contaminants.[1] Spatial definition of the groundwater contaminant plume will depend upon the results of the hydrogeologic study required under the Operable Unit 2 interim remedy. Based on present information, the plume is roughly defined by Figure 5-20 and Plates 3 and 4 in the Preliminary Final RI.

Potentially affected residences are defined as those residences located within or directly adjacent to the groundwater contaminant plume for which sampling results of private groundwater wells to date have not indicated the presence of site-related organic contaminants but which could reasonably be expected to become contaminated. Actual delineation of such homes by EPA must await the results of the hydrogeologic study required under Operable Unit 2. The Settling Defendant(s) will have an opportunity to review and comment on the listing of residences which EPA believes could reasonably be expected to become contaminated.

At this point, it is known that the line shall be constructed to service affected residences along North Sandy Hill Road and along Telegraph Road. The actual configuration of the main line near the intersection of North Sandy Hill and Telegraph Roads will be determined after completion of the hydrogeologic study required under Operable Unit 2. EPA will use the data from this study to make a determination on the extent and configuration of the line as well as to determine which residences will be connected to the water line by the Settling Defendant(s). A goal of the hydrogeologic study will be to determine if residences on Hill Road east and west of North Sandy Hill Road, the residences on Telegraph Road east of North Sandy Hill Road, residences on North Sandy Hill Road south of the Fault(see Figure 1 attached) are affected or potentially affected residences. Based on information

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[1] Site-related organic contamination in residential wells refers to those organic pollutants believed to be present in residential wells as a result of waste disposal activities at the William Dick Lagoons site. A residential well will be considered affected by the site if it lies within the groundwater contaminant plume and contains one or more of the contaminants appearing in: (1) Figure 3-2 of the Preliminary Final RI which presents soil contaminant results for Borings B-1 through B-21 and accompanying Shallow Vadose Zone results, (2) Figure 1-6 of the Preliminary Final RI which presents groundwater contaminant results for site monitoring results MW1, MW2, MW3, MW4, MW5, MW6, MW7, MW8, and MW20.

at this time, EPA has determined that, at a minimum, the residences identified in Figure 1 will require connection to the water line.

2. The Settling Defendant(s) will construct a water storage tank at a location near the site to provide adequate pressure and water storage to service connected residences. The location and specific design of the tank will be determined during Remedial Design.

3. The Settling Defendant(s) will construct a pump station which will pump water from CCA's main water line on State Route 340 to service residents at the higher elevation surrounding the site. The location and specific design of the pump station will be determined during Remedial Design.

4. The Settling Defendant(s) will provide, at its (their) expense, a connection service line and in-house plumbing hookups to all residences identified by EPA to be connected to the water line. All construction work associated with the connection lines shall be performed in a manner which provides as minimal disruption to homeowner activities as is reasonably possible.

5. Except in cases where the Chester County Health Department (CCHD) does not require well closure, the Settling Defendant(s) shall properly fill and seal the private groundwater well of each residence identified by EPA for connection to the water line. The well shall be closed in accordance with pertinent CCHD regulations.

6. All connections to the water line will be constructed by the Settling Defendant(s) in a manner which shall prevent cross contamination of CCA supplied water by groundwater obtained from any remaining private residential well.

7. A cost analysis will be performed by the Settling Defendant(s) which compares the cost associated with installing home water conservation devices on existing faucets and showerheads of connected residences with the future water cost savings realized from converting such fixtures. The Settling Defendant(s) will conduct a residential survey of each connecting residence to determine the residents' general viewpoint on retrofitting their home plumbing fixtures. If the efforts suggest a cost savings and homeowner approval (i.e. greater than 50% approval), the Settling Defendant(s) shall install the retrofitted faucets and showerheads in the homes.

8. The Settling Defendant(s) will develop a residential well monitoring program plan to monitor the water

quality of residential wells which exist beyond the reach of the CCA water line extension. The specific details of the monitoring program will be developed during Remedial Design. Monitoring will be performed until EPA has determined that residences outside of the connection area are no longer at risk from becoming affected by the potential migration of groundwater contaminants from the site to their private wells.

9. The campground and trailer park located approximately 3/4 mile and 1/2 mile, respectively, southwest of the site will not be provided with CCA water at this time but will continue to be monitored and/or obtain dual carbon treatment units as required in the September 1988 Administrative Order on Consent between EPA and Chemical Lehman Tank Lines, Inc..

10. As needed, the EPA, the Settling Defendant(s) and the Chester County Health Department will work to develop and/or enforce institutional controls to protect residents currently living within or moving into the area of the groundwater plume who choose not to connect to the water line.

11. Once the construction of the extension of the water line and connection of the affected and potentially affected residences to the water line are complete, as determined by EPA, the system will be dedicated to the CCA. CCA will be responsible for the operation and maintenence of the water line and associated equipment.

OPERABLE UNIT 2 - GROUNDWATER (INTERIM REMEDY)

1. As part of the first component of this remedy, the Settling Defendant(s) will submit to EPA a work plan for a hydrogeologic study. The study will consist of (a) the installation of monitoring wells, (b) sampling of such wells and performance of aquifer tests , (c) identification of all potentially affected residential wells to the extent possible , (d) collection of data to aid in the determination of the water line configuration in the area of the site and (e) establishment of the locations of the recovery wells for the second component (as described in paragraph 5 below) of the Operable Unit 2 interim remedy. As performance standards, installation of monitoring wells and sampling and performing aquifer tests on these wells shall determine (1) if the Site is impacting groundwater beyond the major fault approximately 0.5 miles south of the Site and groundwater utilized by residents located north and northeast of the Site along Telegraph Road, upper North Sandy Hill Road, and Hill Road east and west of North Sandy Hill Road; (2) the physical characteristics of the aquifer as evidenced by the distribution of contamination and the

interaction between the existing monitoring wells, the newly constructed monitoring wells, the residential wells and other areas of the aquifer, and; (3) if the Site-related contamination in the groundwater is migrating from the lagoon area (see Figure 1) through the fracture systems at the Site. This data will be used to establish the placement of recovery wells and the size of the pumps required for the recovery wells, as described in paragraph 5, below, the size of the treatment plant, as described in paragraphs 3 and 4, below, and which residences will be connected to the water line, as described in OPERABLE UNIT 1- EXTENSION OF WATER LINE, above.

2. Upon EPA approval of the above work plan, the hydrogeologic study will be conducted, and the data generated will be used by EPA to identify all residences to be connected to the water line extension required for Operable Unit 1. To the extent practicable and relevant, design and construction work for the water line will be conducted concurrently with the work required for Operable Unit 2. The Settling Defendant(s) will complete as much of the Operable Unit 1 work as can be practicably achieved pending attainment of the data identifying all residences to be connected to the water line.

3. As a part of the initial component of the groundwater remedy, the Settling Defendant(s) will develop and implement a plan for the performance of treatability studies, if EPA determines that studies are necessary, to determine the most efficient means of treating contaminated groundwater to be collected from the recovery wells. The treatability studies shall allow EPA to determine which technology is capable of meeting the discharge standards established by the Pennsylvania Department of Environmental Resources (PADER). The plan will be submitted to EPA for review and comment. Treatment technologies for evaluation by the treatability studies will include, but not necessarily be limited to: air stripping, granular activated carbon adsorption, and chemical oxidation. Treatability studies can be performed in conjuction with the aquifer tests described in paragraph 1, above. A report discussing the treatability study results will be prepared and submitted to EPA. This report will be submitted early in the Remedial Design process so that a specific technology(ies) can be selected and planned for during groundwater treatment plant design. Based on the results of the treatability studies, EPA shall choose the technology to be employed at the Site for the treatment of the extracted groundwater.

If EPA determines that, based on the results of the hydrogeological study and information provided in the RI/FS, treatability studies are not necessary, EPA will advise the

Settling Defendant(s), in writing, of the particular treatment technology that will be used at the Site.

4. Once EPA has chosen the treatment technology to be employed at the Site for the treatment of extracted groundwater, the Settling Defendant(s) shall then design the treatment plant to meet the discharge standards established by the PADER under the NPDES permitting requirement as described in paragraph 5, below.

5. The second component of this interim remedy will entail: (a) the installation of recovery wells and associated pumps to withdraw contaminated groundwater from bedrock and overburden, and (b) construction of a pipeline network and the on-site treatment plant to convey and treat extracted groundwater. The Settling Defendant(s) will obtain a NPDES permit from the PADER for any offsite discharge location (it is currently expected that treated groundwater will be discharged to Indian Spring Run at a location northwest of the site). The treated groundwater will be conveyed to the discharge point determined by EPA and PADER and will be treated to meet all of the discharge standards established by PADER. This work should be completed within 2 years from the commencement of the hydrogeologic study discussed in paragraph 1 in order to meet the estimated 5 year deadline for final ROD preparation. This component of the interim remedy will enable EPA to observe how large portions of the contaminant plume will respond to recovery operations. It will also aid in determining the final remedy for groundwater. This work can be performed in a staged approach (i.e. installation of recovery wells at separate times dependent on data collected from previously installed wells) if EPA determines that this is a viable approach based on a review of the data generated during the hydrogeologic study. The proposed extraction wells shall be located in areas identified by EPA through use of the existing RI report as well as data collected during the hydrogeologic study.

At least three piezometers shall be installed in the vicinity of each extraction well (and all subsequent extraction wells) to monitor horizontal and vertical gradients in groundwater and contaminant concentration distributions. The feasibility of existing wells as monitoring points will be determined during the Remedial Design. Aquifer tests shall be conducted on each of the newly installed extraction wells to determine the capture zone, aquifer yield and optimum pumping rate for each well and the combined system. If EPA determines that a staged approach to recovery well installation is appropriate, the initial extraction well network shall be expanded or otherwise modified to (1) reduce the volume of contaminated

groundwater in the aquifer by maintaining or reducing the distribution and concentration of groundwater contaminants identified in the Preliminary Final RI and (2) to obtain additional information about the response of the aquifer to remediation measures. Expansion or modification of the well network will be based on evaluation of the information gathered during the previous network stage. Well network parameters which may be modified include well location, number, depth of withdrawal, pumping rate and the extent of the capture zone.

6. A groundwater monitoring plan will be developed and implemented during the interim Remedial Action at the completion of the hydrogeologic study discussed in paragraph 1. The plan will be presented to EPA for review and approval. This plan shall include, at a minimum, the following: locations of monitoring wells for water quality sampling (existing monitoring wells may be utilized if approved by EPA), frequency of water quality sampling, analytical parameters (focusing on chemicals of concern) and procedures, field sampling methods, and the location, method and frequency of water level measurements. Modification of the monitoring program will be made as necessary for subsequent stages of the well network. A group of monitoring wells and residential wells shall be sampled quarterly to help define changes in the nature and extent of groundwater contamination. The residential well monitoring program discussed in item #8 under the Operable Unit 1 remedy can be included in this plan.

7. At the completion of the Operable Unit 2 work, in addition to the remediation goals stated in the Overview of the Remedy section and those expressed in 1 through 6 above, appropriate data will have been collected to:

(a) provide a +50/-50% cost estimate for remediation of the entire contaminant plume, as well as portions of the plume otherwise identified, to "background" groundwater quality as established by the PADER and to health-based standards (i.e. MCLS) as established by EPA;

(b) provide a recovery well placement design for remediation of the entire contaminant plume as well as portions of the plume otherwise identified by EPA;

(c) provide a reasonable estimate of the time necessary to remediate the entire contaminant plume as well as portions of the plume

otherwise identified by EPA;

(d) identify the feasibility of containing and preventing migration of contaminants from areas of the entire plume to be identified during Operable Unit 2 work.

8. All work under Operable Unit 2 shall be completed within 4.5 years from the commencement of field work for the hydrogeologic study referenced above. This will enable EPA to prepare a final ROD for Operable Unit 2 in accordance with the time frame specified in the June 1991 ROD.

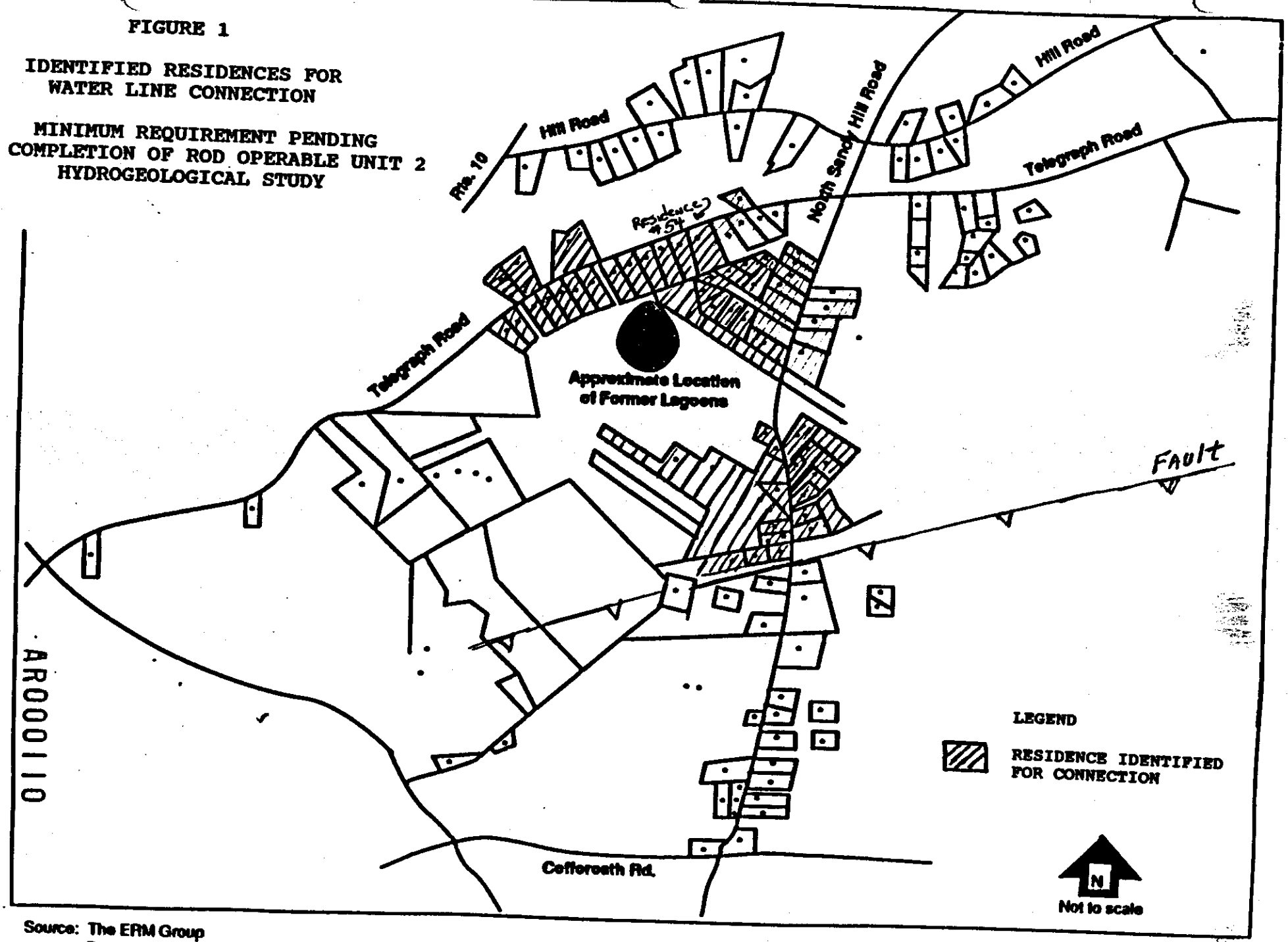
9. In order to determine if groundwater pumping activities result in degradation of nearby stream quality, monitoring of the macroinvertbrate community will be conducted at Stations 1 and 2 on Indian Spring Run and Stations 5, 6 and 7 on Birch Run (locations are identified in the Ecological Assessment portion of the September 1990 Remedial Investigation report.) A proposal for the frequency, duration and specific details of the monitoring program will be presented in the design for the recovery well operation. The monitoring program should commence within three months of recovery well pumping activities. If a decline in macroinvertebrate numbers, diversity, abundance, or EPT ratio is detected during the monitoring program, chronic toxicity testing of surface water and sediments will be incorporated (additional monitoring requirements may be imposed in a NPDES permit by the PADER for the stream receiving treated groundwater).

10. The recovery well system and groundwater treatment system shall be operated and maintained until EPA determines that sufficient information has been generated to prepare a final record of decision for remediation of the groundwater at the Site. If EPA so determines, operation and maintenance of the systems shall continue throughout the preparation of the final record of decision. The systems will be maintained so that the treated groundwater meets the discharge requirements of the NPDES permit and any air emissions from the groundwater treatment units meet the applicable or relevant and appropriate requirements discussed in the Record of Decision.

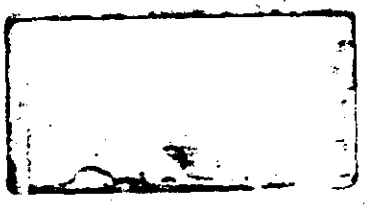
FIGURE 1

IDENTIFIED RESIDENCES FOR
WATER LINE CONNECTION

MINIMUM REQUIREMENT PENDING
COMPLETION OF ROD OPERABLE UNIT 2
HYDROGEOLOGICAL STUDY



Source: The ERM Group
Preliminary Final RI/FS September 6, 1990



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- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece next to the article number.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Mr. George Schnabel
Environmental Control Manager
North American Region
Rohm + Haas Company
Independence Mall West
Philadelphia, PA 19105

4a. Article Number

P-616-610-882

4b. Service Type
☐ Registered ☐ Insured
☑ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery

2-8-92

5. Signature (Addressee)

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

AR000111

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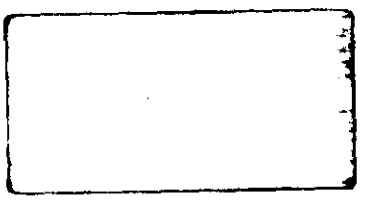

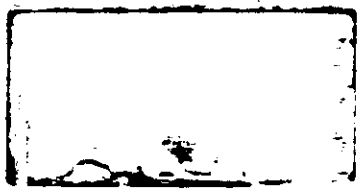

P 794 838 524

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Street and No. ~~North American Region~~ Rohm and Haas Company	
P.O., State and ZIP Code Independence Mall West	
Postage Phila. PA 19105	$
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